

PATENT APPLICATION
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TOOL FOR DRIVING PINS

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FIELD OF THE INVENTION

[0001] This invention relates in general to a tool for driving pins and, more particularly, to a wall panel system that utilizes an attachment clip system for attachment to a wall.

BACKGROUND OF THE INVENTION

[0002] Landscape pins are used to pin landscape fabric or similar material to a ground surface. Usually, the pins are an inverted U-shape with two legs joined together by a linkage at the top. The legs of the pins are inserted through the material and into the ground surface. The linkage remains on top of the material to hold it in place. The pins may be used to hold the material in place either temporarily or permanently.

[0003] Often numerous pins are used to hold the material. Inserting numerous pins can be very time consuming. Additionally, landscape pins are usually manufactured from a weak material that is susceptible to bending if the force used to insert it is not properly aligned with the pin. Furthermore, ground surfaces vary in hardness and pins are difficult to insert in to particularly hard ground surfaces.

SUMMARY OF THE INVENTION

[0004] According to principles of the present invention, a tool is provided for driving a landscape pin. The tool has a frame, a base, a hammer, and driving means. The frame is sized to house the landscape pin. The base is attached to the frame and has a slot formed therein. The slot is disposed within the frame and sized and shaped to accommodate passage of the landscape pin. The hammer is disposed within the frame and aligned with the slot. The driving means applies force to the hammer to drive the landscape pin from the frame and through the slot.

DESCRIPTION OF THE DRAWINGS

[0005] Figure 1 is a cross-sectional front elevational view of one embodiment of the present invention tool for driving landscape pins.

[0006] Figure 2 is a cross-sectional side elevational view of the tool for driving landscape pins of Figure 1, with an alternate embodiment driving means.

[0007] Figure 3 is a close up cross-sectional perspective view showing the base of the tool for driving landscape pins of Figure 1 with the hammer in an up position.

[0008] Figure 4 is a close up cross-sectional perspective view showing the base of the tool for driving landscape pins of Figure 1 with the hammer in a down position.

[0009] Figure 5 is an illustration of one embodiment of a stop means for the tool for driving landscape pins of Figure 1.

[0010] Figure 6 is a close up cross-sectional front elevational view showing a hose adaptor attached to the base of Figure 3.

[0011] Figure 7 is a close up cross-sectional side elevational view showing the hammer of Figures 1-4 having a cupped edge.

[0012] Figure 8 is a flow chart representing steps of one embodiment of the present invention method for driving a landscape pin.

DETAILED DESCRIPTION OF THE INVENTION

[0013] Figure 1 illustrates one embodiment of the present invention. A tool 2 for driving a landscape pin 4, includes a frame 6, a base 8, a hammer 10, driving means 12, and optionally, return spring 14. Figure 2 illustrates the tool 2 of Figure 1 with an alternate embodiment driving means and optional landscape pin magazine 16.

[0014] Landscape pin 4 is any pin 4 for holding down landscape fabric material or the like. In one embodiment, shown best in Figure 3, landscape pin 4 includes a pair of legs 18 joined by a linkage 20. The size and shape of landscape pin 4 may affect the size and shape of the certain aspects of the tool 2.

[0015] Frame 6 is any frame or housing sized and configured to house landscape pin 4. Frame 6 is of any dimension. An example of a convenient height includes 48 inches. Frame 6 is any cross-sectional shape of sufficient size to hold landscape pin 4. Examples of cross-sectional shapes include circular, elliptical, rectangular, and square.

[0016] Referring to Figure 3, base 8 is attached to frame 6. A slot 22 is formed in base 8. Slot 22 is disposed within frame 6 and sized and shaped to accommodate passage of landscape pin 4. In one embodiment, base 8 has a thickness similar to a thickness of landscape pin 4. This similarity of thicknesses allows legs 18 of pins 4 to be 'fully inserted into a ground surface without forcing a linkage 20 of pin 4 through the landscape fabric.

[0017] Hammer 10 is disposed within frame 6 and aligned with slot 22. As shown in Figure 7, in one embodiment, the edge 24 of hammer 10 disposed towards landscape pin 4 is cupped to receive landscape pin 4.

[0018] As shown in Figures 2 and 3, in one embodiment, hammer 10 includes stop means 26 for preventing hammer 10 from passing through slot 22. One example of stop means 26 includes a portion of hammer 10 exceeding the passable area of slot 22. Figure 3 illustrates hammer 10 prevented from passing through slot 22 by a corner of hammer 10. The corner is one example of a stop means 26.

[0019] In an alternate embodiment, as shown in Figure 5, tool 2 further including stop means 28 for preventing hammer 10 from passing through slot 22. One example of stop means 28 includes return spring 14 fully compressing to prevent driving means 12 from forcing hammer 10 through slot 22.

[0020] Driving means 12 is any means for applying force to hammer 10 to drive landscape pin 4 from frame 6 and through slot 22. In one embodiment as shown in Figure 1, driving means 12 includes a foot lever 30 coupled to hammer 10 and passing through frame 6. In an alternate embodiment as shown in Figure 2, driving means 12 includes a powered driver 32 such as a hydraulic driver, a pneumatic driver, or an electrical driver coupled to hammer 10.

[0021] Return spring 14 (Figures 1 and 2) is any spring or spring-like device configured to resist driving means 12 and urge hammer 10 away from slot 22.

[0022] Landscape pin magazine 16 is attached to frame 6 and configured to feed landscape pins 4 into frame 6. Although landscape pin magazine 16 is shown perpendicular to frame 6, it may be at any angle to frame 6.

[0023] Figure 6 illustrates optional adaptor plate 34 affixed to base 8. Adapter plate 24 is shaped to partially surround a diameter of a hose 36 so that hose 36 may be pinned to a ground surface in a similar fashion to pinning the landscape fabric.

[0024] Figure 8 is a flow chart representing steps of one embodiment of the present invention. Although the steps represented in Figure 8 are presented in a specific order, the present invention encompasses variations in the order of steps. Furthermore, additional steps may be executed between the steps illustrated in Figure 8 without departing from the scope of the present invention.

[0025] A landscape pin 4 is fed 38 into frame 6. Hammer 10 is forced 40 against landscape pin 4 to drive landscape pin 4 through slot 22 in base 8. In one embodiment, hammer 10 is forced 40 against landscape pin 4 by applying pressure to a foot lever coupled to hammer 10. In an alternate embodiment, hammer 10 is forced 40 against landscape pin 4 by applying hydraulic pressure to hammer 10. In another alternate embodiment, hammer 10 is forced 40 against landscape pin 4 by applying pneumatic pressure to hammer 10.

[0026] Hammer 10 is prevented 42 from passing through slot 22. In one embodiment, hammer 10 is prevented from passing through slot 22 by stop means 26 on hammer 10. In another embodiment, hammer 10 is prevented from passing through slot 22 by stop means 28 on tool 2.

[0027] The foregoing description is only illustrative of the invention. Various alternatives and modifications can be devised by those skilled in the art without departing from the invention. Accordingly, the present invention embraces all such alternatives, modifications, and variances that fall within the scope of the appended claims.